NC/QC/YD/2020-21/SN-C1 **Date: 06-04-2021**

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	158 min	Shall not be less than 30 min
2	Final setting time	265 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.13%	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	2.06mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.65 N/Sq mm	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Maruthi Nagara 5th A Cross Road

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EMAIL:newzen576@gmail.com

NC/QC/YD/2020-21/SN-PCC2 **Date: 08-04-2021**

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	64.35	0 -20	30- 70
10mm	28.10	0 -5	10- 35
4.75mm	3.95	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	96.70	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	82.15	60-95	75-100	85-100	
01.18	74.50	30-70	55-90	75-100	
600 mic	46.30	15-34	35-59	60-79	
300 mic	22.10	5-20	8-30	12-40	
150 mic	5.80	0-10	0-10	0-10	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Mathru layout cross road 1 LHS

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NC/QC/YD/2020-21/SN-S1 Date: 12-04-2021

1. TEST REPORT ON REINFORCEMENT STEEL:

Sub: Testing of Reinforcement Steel of diameter 8, 10and 12 mm **TMT Steel.**
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

TABLE – 1

SL No	Details	For 8 mm		For 10 mm	
		Test Results	Min Req as per IS 1786-2008	Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	**8.0 mm**	8.0 mm	**10.0 mm**	10.0 mm
02	Observed Wt/m Length Kg/m	**0.398**	0.363	**0.621**	0.567
03	Proof stress/Yield stress, fy , N/mm^2	**562.0**	500.0	**556.0**	500.0
04	Bend/ Re bend Test	**Ok**	---	**Ok**	---
05	Percentage of Elongation, %	**19.50**	12.00	**20.90**	12.00
06	Ultimate Tensile Strength N/mm^2	**645.0**	545.0	**641.0**	545.0

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NEW TECHNOLOGIES TO INNOVATE

NC/QC/YD/2020-21/SN-CB2 **Date: 24-04-2021**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	17-04-21	24-04-21	07	22500	365	16.22	**16.15**
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	355	15.78	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : LIG Anganavadi road

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NC/QC/YD/2020-21/SN-CB3 Date: 26-04-2021

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	19-04-21	26-04-21	07	22500	375	16.67	16.74
	002	"	"	"	"	385	17.11	
	003	"	"	"	"	370	16.44	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : near RO plant

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NC/QC/YD/2020-21/SN-CB5 **Date: 30-04-2021**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	23-04-21	30-04-21	07	22500	380	16.89	16.81
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	385	17.11	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : 3rd phase 4th main road

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NC/QC/YD/2020-21/SN-CB3A **Date: 17-05-2021**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	19-04-21	17-05-21	29	22500	495	22.00	**22.22**
	002	"	"	"	"	500	22.22	
	003	"	"	"	"	505	22.44	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : near RO plant

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NC/QC/YD/2020-21/SN-C4 **Date: 22-04-2021**

1. TEST REPORT ON CEMENT:

Sub. Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	162 min	Shall not be less than 30 min
2	Final setting time	265 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.13 %	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	2.06 mm	Shall not be more than 10 mm
5	Compressive strength d) 3 days (average of three results)	28.54 N/Sq mm	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : 1st cross road LHS

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NC/QC/YD/2020-21/SN-PCC4

Date: 22-04-2021

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	64.10	0 -20	30- 70
10mm	32.80	0 -5	10- 35
4 75mm	4.05	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	94.25	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	81.15	60-95	75-100	85-100	
01.18	73.65	30-70	55-90	75-100	
600.mic	45.30	15-34	35-59	60-79	
300.mic	24.15	5-20	8-30	12-40	
150.mic	6.45	0-10	0-10	0-10	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : : 1st cross road LHS

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NC/QC/YD/2020-21/SN-CR3

Date: 05-05-2021

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{30}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	28-04-21	05-05-21	07	22500	530	23.56	23.33
	002	"	"	"	"	530	23.56	
	003	"	"	"	"	515	22.89	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : PM layout 3rd cross RHS

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NC/QC/YD/2020-21/SN-DBM2 Date: 21-05-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub. To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref. Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.53 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	95.45	90-100
19.0	83.55	71-95
13.20	71.90	56-80
4.75	47.10	38-54
2.36	34.80	28-42
0.300	19.25	7-21
0.075	5.45	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Someshwara nagara 2nd A cross road house no 41

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NC/QC/YD/2020-21/SN-BS3 Date: 28-05-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Improvements to roads and drains at Someshwaranagara in ward no -04.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: R Ranganath.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1354**	900
2	Marshall Flow at 60°C, mm	**3.40**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : main road house no 7

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